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STATISTICAL BULLETIN
Metropolitan Life Insurance Co.

VOL. III. SEPTEMBER, 1922 No. 9

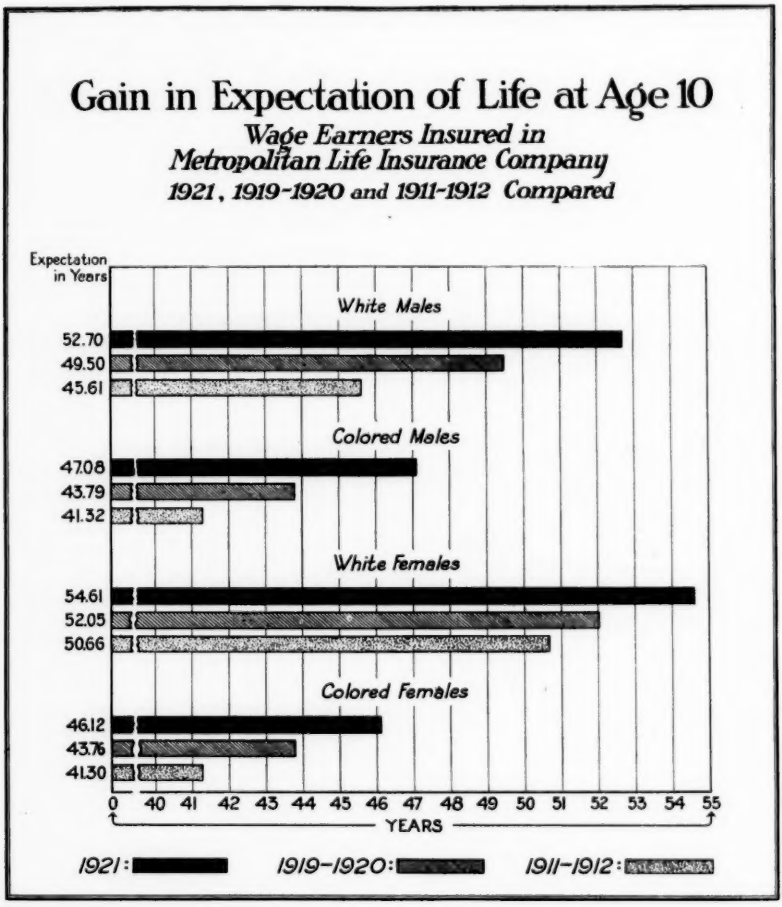
EXTENDING THE LIFE-SPAN OF AMERICAN AND CANADIAN WAGE-EARNERS.

The remarkable improvement during 1921 in the mortality of wage-earners insured in the Industrial Department of the Metropolitan Life Insurance Company resulted in a substantial addition to the expectation of life of this group of the population. In that year, the expected after-lifetime at birth for the insured wage-earning group was 55.08 years, that is to say, a child at birth, living under conditions of health similar to those prevailing in 1921, had an average expectation of living slightly more than 55 years. Nine and one-half years ago the expectation was 46.63 years. Within this period the span of life, measured by the life-table, has been lengthened nearly eight and one-half years.

Nowhere in the history of public health is there so pronounced a record of addition to the life span within so short a period as a decade. The facts of longevity of wage-earners are beginning to show the result of decades of health protective measures—public sanitation, the education of individuals in personal hygiene, the improvement in wage and living conditions. But this evidence is testimony, more especially, to the work undertaken during the last decade. Not only have official and semi-private health agencies helped to bring about the fine record of the year 1921, but during this decade, Metropolitan Industrial policy-holders have had the benefit of health promotion activities undertaken by the Company—a visiting nurse service, cooperation with official bodies for the enactment and enforcement of health legislation and the education of policy-holders in hygiene.

The longevity record of certain color and sex groups excelled that of the whole Industrial Department. For purposes of this comparison, the facts are given for the expectation of life at age 10. For all

of the policy-holders in the Industrial Department, the expectancy was 52.73 years at this age in 1921, an improvement of 2.88 years over the record of 1919–1920 and of 5.30 years over the expectancy in 1911–1920. Comparing the 1921 results with those of 1911–1912, we found an increase of 7.09 years for white males, 5.76 years for colored males, 3.95 years for white females, and 4.82 years for colored females.



The lengthening of the expected after-life span is one of the aims of public health work, and who shall say that such effort has not succeeded to an extent wholly unexpected by the most enthusiastic of the workers in this field ten years ago? The addition of a single

year to the span of life is a stupendous achievement, implying as it does, the addition of millions of years of productive effort in the aggregate for the wage-working population of the United States and Canada. That in one year alone, a greater improvement in life expectancy was accomplished than in eight preceding years is a remarkable testimony to the soundness of the fundamental conceptions of modern health protective work, including under this term not only the activities of official health departments, but those of numerous private agencies, like the insurance organizations.

SAFETY WEEKS AND ACCIDENT PREVENTION.

October 8th to 14th will be "Safety Week" in New York City. During this week the five Boroughs will be thrown into competition in a campaign inaugurated by the Safety Institute of America to make New York the safest city in the country. Attention will be focused on the accident situation and on the best means of accident prevention. Success attained in New York City should spur other communities to like efforts. The need for safety work is much the same throughout the country. Everywhere there is the same carelessness and indifference to the value of life.

It is, therefore, particularly pertinent at this time that the Metropolitan Life Insurance Company make available the figures on mortality from accidents among its many New York City Industrial policy-holders. In the year 1921, 1,022 death claims were paid on account of accidental deaths in the Greater City. This number is 5.8 per cent. of the total number of claims paid. For every 100,000 Industrial policies in force in the city, 60.7 claims were paid on account of accidental deaths. Comparison of the situation in the several Boroughs shows by far the most unsatisfactory condition in Manhattan. Here the claim rate was 82.3 per 100,000, which may be compared with 51.8 in Brooklyn, 46.9 in Queens, 46.0 in the Bronx, and 45.6 in Richmond. The most prominent form of accidental death was through the agency of the automobile. There were 307 such claims paid, or almost one-third of the total for all forms of accidents. The mortality rate for automobile accidents was 18 per 100,000 in the Greater City, as compared with 12 for the whole Industrial Department.

How important fatal accidents are among the Industrial policyholders is brought out rather strikingly by a comparison of the mortality with that for certain diseases of primary public health interest.

There were, for example, only 29 New York City death claims paid in 1921 for typhoid fever as compared with the 1,022 for accidental deaths. During the same year, 28 claims were paid on account of measles, 96 on account of scarlet fever, 34 and 213, respectively, on account of whooping cough and diphtheria. Thus we see that there was over two and one-half times as much mortality from accidents in the city as from all four of these epidemic diseases of childhood. In fact, as many children died from these accidental causes in the city as from the four principal communicable diseases of children combined. Accidents caused among these New York City Industrial policy-holders considerably more than half as many deaths as pulmonary tuberculosis; they caused one-third as many deaths as all forms of organic heart disease, and more than one-half as many as Bright's disease.

These figures for New York City are much the same as those for the other cities in the State. The accident deathrate among those insured by the Company was 54.1 per 100,000 in Albany, 50.7 in Buffalo and 47.8 in Rochester. Slightly higher rates were recorded among the Industrial policy-holders of Syracuse (64.6), while in Yonkers a much higher rate prevailed (76.8).

Metropolitan policy-holders form so large a part of the entire urban population of the country that the figures quoted serve as a fair guide to what is transpiring in the whole urban population. There is obviously a clear call for concentrating public attention and effective effort upon this serious source of life wastage.

Communities should endeavor to secure the facts on accident occurrence, especially for public accidents. In our April, 1922, BULLETIN we directed attention to the practicability of securing uniform statements on the public accident problem in American cities. If each of the larger cities would cooperate with the National Safety Council in securing and publishing the data on the frequency and causes of public accidents, a long step would be taken toward the adoption of more effective preventive measures. At the present time the supply of accurate information on this group of accidents is woefully inadequate. The facts available do not begin to approximate what is needed to direct the huge task of public accident prevention.

Further progress needs to be made in the direction of preventing accidents in and about the home. The facts of housing and living conditions, the use of heating, lighting and cooking facilities, in relation to domestic safety are still to be determined. The safety idea needs

to be applied particularly to the use of illuminating-gas appliances, domestic laundering, the construction of stairways and to the arrangement of heavy furnishings.

The accident factor in industry has been studied effectively in a great number of establishments, but there is need for a wider extension of safety work along the lines found to be effective in the larger organizations.

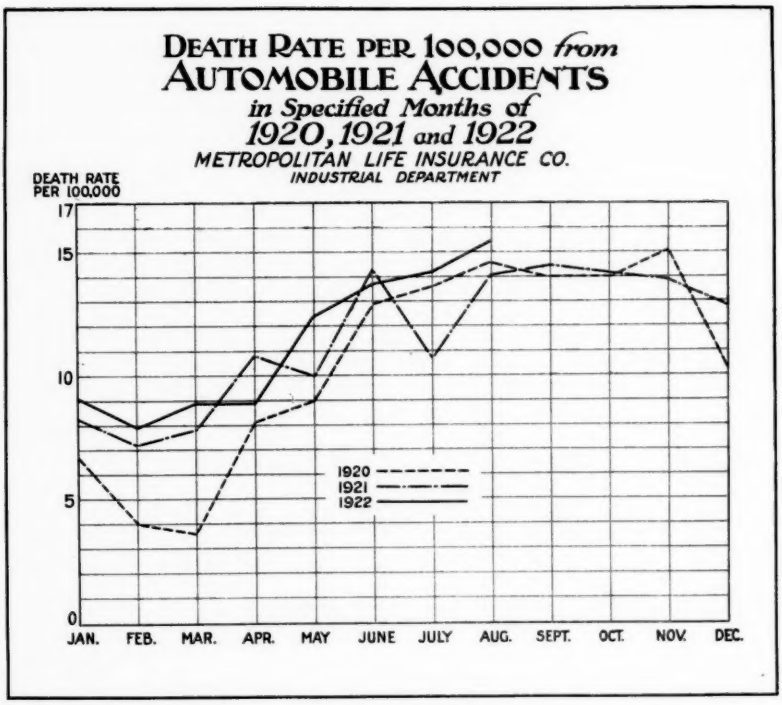
The plans and methods of the Safety Week organization in New York City should be studied carefully by public-spirited bodies the country over. Bringing the safety message to public attention and nurturing the interest thus aroused for sustained safety work thereafter, is one of the possibilities of a Safety Week. Every week should be a Safety Week if the accident record of the United States is ever to approach that for England and Wales, or other countries which place a higher valuation upon human life than we do.

AUTOMOBILE ACCIDENT RECORD OF 1922.

The unremitting increase in automobile accidents continues. Each year the crest of mortality in the Summer and Autumn mounts higher. The death rate of 1921 (12.2 per 100,000) was nearly five and one-half times the rate of the year 1911 among Metropolitan Industrial policy-holders, and 1922 will record a still higher deathrate.

Despite the publicity given this subject, and the regulatory efforts of police and safety officials, the death rate continues to rise. Automobile accidents have displaced in interest a number of important infectious diseases. In 1921, the number of automobile fatalities was twice the number for typhoid fever, four times the number for measles, three times the number for whooping cough, and twice the number for scarlet fever. One-fifth as many policy-holders died from automobile accidents as from Bright's disease or pneumonia, and about one-sixth as many as from cancer. More than one-fifth of all accidental deaths arose out of automobile casualties.

For the first eight months of 1922, the automobile death rate was 11.4 per 100,000 Industrial policy-holders, an increase of 8.6 per cent. over the rate for the same period of 1921. In the following graphic chart we show, month by month, the automobile accident death rates of 1920, 1921 and 1922.



Some important facts on automobile fatalities in American cities during 1921 were made available at the meeting of the National Safety Council† at Detroit, August 28 to 31, 1922. In the following table we give a comparison of the data offered at this meeting for traffic fatalities.

Traffic Fatalities in 50 American Cities, 1920 and 1921.

Means of Injury	No. of deaths		Death Rate per 1,000,000		Per Cent. Increase* 1921 Rate Over 1920
	1921	1920	1921	1920	
Automobile	3,837	3,637	155.1	149.7	3.6
Street Railway	601	772	24.3	31.8	—23.6
Steam Railway	841	1,077	34.0	44.3	—23.2
Other Vehicles	321	293	13.0	12.1	7.4
All Vehicles	5,600	5,779	226.4	237.9	—4.8

†Data compiled by Mr. H. P. Stellwagen, of the Committee on Public Accident Statistics, *National Safety Council*, from Reports submitted by City Health Officers and Registrars.

*Minus sign (—) denotes decrease.

While there was a wholesome decrease in the deathrates for street and steam railways, the automobile accident deathrate of 50 American cities showed an increase of nearly 4 per cent. in 1921 over the figures prepared for 1920. The deathrate for "other vehicles", comprising fatalities arising out of the use of motorcycles, bicycles and wagons, showed an increase of 7.4 per cent. In the following table the death rates for automobile accidents are shown for the individual cities, the cities being ranked in decreasing order of the death rate.

AUTOMOBILE DEATH RATES IN 50 AMERICAN CITIES—1921.

Showing the Range in Death Rates from the Highest to the Lowest.

City	Death Rate per Million Population	City	Death Rate per Million Population
1. Los Angeles	291.0	26. Lawrence	146.4
2. Trenton	236.2	27. Hartford	145.7
3. Erie	215.5	28. St. Louis	142.5
4. Birmingham	214.9	29. Toledo	142.2
5. Passaic	214.4	30. Omaha	142.0
6. Cincinnati	198.3	31. Indianapolis	141.4
7. Chicago	194.6	32. Baltimore	141.0
8. Kansas City, Mo.	193.4	33. Reading	137.5
9. Brockton	192.1	34. Boston	137.3
10. Pittsburgh	186.1	35. Philadelphia	136.2
11. Cleveland	185.3	36. Rochester	134.4
12. San Francisco	176.9	37. Detroit	125.2
13. Springfield, Mass.	169.5	38. Jersey City	122.2
14. Lowell	167.0	39. Minneapolis	122.2
15. Bridgeport	166.7	40. Washington	121.1
16. Salt Lake City	164.6	41. New Haven	113.8
17. Providence	162.7	42. Milwaukee	104.6
18. Yonkers	154.8	43. Portland, Ore.	101.9
19. Akron	152.8	44. Dayton	101.2
20. Buffalo	152.0	45. Grand Rapids	99.2
21. Denver	152.0	46. Elizabeth	90.8
22. Dallas	151.3	47. Louisville	89.0
23. Newark	150.6	48. Hoboken	88.1
24. New York	147.6	49. Fall River	82.9
25. St. Paul	147.4	50. New Bedford	64.0

The cities of Los Angeles, Trenton and Erie showed the highest death rates in 1921 and Hoboken, Fall River and New Bedford, the least. It should be remembered that the automobile accident fatality record is influenced to a great extent by the number of automobiles in use in the respective cities, as well as by the effectiveness of measures for traffic segregation, classification and regulation. But the intensity of automobile traffic should act as a spur for the discovery and

practical application of measures for the prevention of accidents. Much depends upon the personal equation also. Both the reckless driver and the heedless pedestrian share in the responsibility for automobile accidents. Then there are matters of sound construction of the machines themselves and of the braking and other safety appliances. All of these facts bear directly upon the regrettable increase in automobile accidents. Only by collecting the facts on the cause of each accident, and by reading proper lessons from such facts, can the prevailing slaughter of valuable lives be stopped.

INCREASED MORTALITY RATE IN 1922 AFFECTS ADVANCED AGES CHIEFLY.

The higher mortality rates which have prevailed during the first six months of this year have affected chiefly the ages beyond 45 years. At ages under 25 years, the deathrate declined sharply. The decline in the deathrate for children under 15 years resulted from the lower diphtheria, scarlet fever and whooping cough rates; among adolescents the lower tuberculosis mortality was the chief factor back of the lower rates. The deathrate was approximately five per cent. higher this year in the age group 25 to 34 years. This increase resulted, for the most part, from the higher rates for influenza-pneumonia and organic heart disease. In the age period 35 to 44 years, the rate for all causes of death this year was only 4.3 per cent. in excess of the figure for 1921, and the increase seems to have been caused by higher deathrates for influenza-pneumonia and cancer.

The more significant increases in the 1922 mortality record have occurred, however, at the more advanced ages. For the age division 45 to 64 years, the deathrate for the first six months of 1922 was 12.3 per cent. and, at the age group 65 years and over, 13.3 per cent. in excess of the figures prevailing during the same period of 1921. The chief factors responsible for higher mortality at these advanced age divisions were organic diseases of the heart with an increase of 21.6 per cent. between 45 and 64 years and of 20.1 per cent. at ages 65 and over. There was a considerable increase in mortality also for chronic nephritis, cerebral hemorrhage and apoplexy, cancer and influenza-pneumonia.

The table below shows the death rates by broad age periods.

Death Rates per 1,000 at Specified Age Periods Metropolitan Life Insurance Company. Industrial Department. First Six Months of 1922 and 1921.

Age Period	1922	1921	Per Cent. Increase or Decrease, 1922 over 1921
All ages one and over	9.90	9.35	+ 5.9
Under 15	4.05	4.37	— 7.2
15 to 24	4.43	4.66	— 4.9
25 to 34	6.30	6.02	+ 4.6
35 to 44	9.56	9.16	+ 4.3
45 to 64	22.33	19.88	+ 12.3
65 and over	85.29	75.28	+ 13.3

HEALTH RECORD FOR AUGUST, 1922.

Health conditions among the Industrial policy-holders continued satisfactory during August. The death rate (8.2 per 1,000) was a little lower than last year's record for the same month (8.3). There was, it is true, the usual rise as compared with July. This was due, for the most part, to increased mortality in August from typhoid fever, tuberculosis, cancer, cerebral hemorrhage, heart disease and Bright's disease. The situation with reference to the epidemic diseases of children is particularly favorable,especially for diphtheria. Comparatively low rates have been recorded for this disease for several months and it is safe to say that the long run of high mortality, which has been in evidence for several years for this disease, has been broken. There was the expected August rise for typhoid fever but it was not so pronounced as usual, the death rate being much lower than that for August last year. It is now almost assured that the year's tuberculosis record will be the best in the history of the Company. Higher rates than for similar periods of last year continue to be registered for cerebral hemorrhage, organic heart disease and Bright's disease. It is the increases for these causes that are chiefly responsible for the very slight excess in the total death rate of the first eight months of 1922 as compared with the same months of 1921. The cool summer has resulted in a comparatively low mortality from diarrheal complaints. The automobile accident situation is altogether unsatisfactory. We have commented on this elsewhere in this number of the Bulletin.

The general death rate for the large cities of the United States in August was 10.5 per thousand as compared with 10.6 for both August, 1921, and July, 1922. Increases in the prevalence of typhoid fever, diphtheria, poliomyelitis and malaria in August as compared with July are reported; declines were noted in the incidence of scarlet fever, smallpox and measles.

Reports indicate fewer smallpox cases in August of this year than in the same month of 1921. The New Jersey State Board of Health has decided that local boards of education may exclude from any school any teacher or pupil who has not been successfully vaccinated, unless a certificate is furnished that one not so vaccinated is an unfit subject for the operation. In Washington, D. C. a request has been issued that all children not previously vaccinated have this attended to before the opening of the schools.

The August typhoid fever situation shows improvement over last year. During the first three weeks of the month considerable decreases in the number of cases were reported from many states, as compared with the record of last year.

The majority of the states report less diphtheria during August of this year than of last, but increases have been noted in Georgia, Illinois and North Carolina.

The poliomyelitis situation is in most of the states much more favorable than at this time last year. Massachusetts is a notable exception.

During the first three weeks of August three cases of Rocky Mountain spotted fever were reported from Montana and four from Wyoming. Dengue fever cases in considerable numbers were reported from Florida and a few from Georgia. A case of typhus that had occurred in July was reported from Palestine, Texas, and another was reported under date of August 3d from Mobile, Ala.

To test the feasibility of public health nursing on the Indian reservations, the American Red Cross has inaugurated a survey among several reservations in Oregon, New Mexico and South Dakota.

The Montana Public Health Association is cooperating with the county commissioners and county boards of health in establishing maternal and infant clinics in various communities. This experiment in providing service for rural communities will repay observation.

The table below shows the mortality among Industrial policyholders for August, 1922, July, 1922, August, 1921 and for the year 1921:

METROPOLITAN LIFE INSURANCE COMPANY.

Death Rates per 100,000 for Principal Causes, Premium-paying Business in Industrial Department.

(Annual Basis)

MONTHS OF JULY AND AUGUST, 1922, AND OF AUGUST, 1921.

CAUSES OF DEATH	RATE PER 100,000 LIVES EXPOSED			
	Aug., 1922	July, 1922	Aug., 1921	Year 1921
TOTAL—ALL CAUSES	816.7	756.9	829.8	870.6
Typhoid fever	8.9	6.8	10.6	6.7
Measles	3.0	3.3	1.1	3.2
Scarlet fever	2.0	2.3	3.8	7.0
Whooping cough	3.1	2.1	4.4	3.9
Diphtheria	9.1	10.4	14.7	23.8
Influenza	3.8	3.9	2.5	8.7
Tuberculosis (all forms)	115.1	105.4	116.4	117.4
Tuberculosis of resp'y system	105.0	95.0	105.2	105.6
Cancer	74.4	64.1	74.1	71.7
Cerebral hemorrhage	56.3	49.0	49.3	62.1
Organic diseases of heart	111.8	100.0	103.5	117.4
Pneumonia (all forms)	26.8	29.3	27.5	67.8
Other respiratory diseases	10.4	10.7	10.1	14.1
Diarrhea and enteritis	17.3	14.1	32.1	14.2
Bright's disease (chronic nephritis)	64.6	59.9	62.3	68.0
Puerperal state	16.4	15.2	16.8	19.8
Suicides	8.0	7.0	8.2	7.6
Homicides	6.4	5.6	6.5	6.7
Other external causes (excluding suicides and homicides)	67.3	68.8	72.0	57.6
Traumatism by automobile	15.5	14.2	14.1	12.2
All other causes	212.2	199.1	214.1	192.9

Correspondence on the subjects discussed in these BULLETINS may be addressed to: The Editor,

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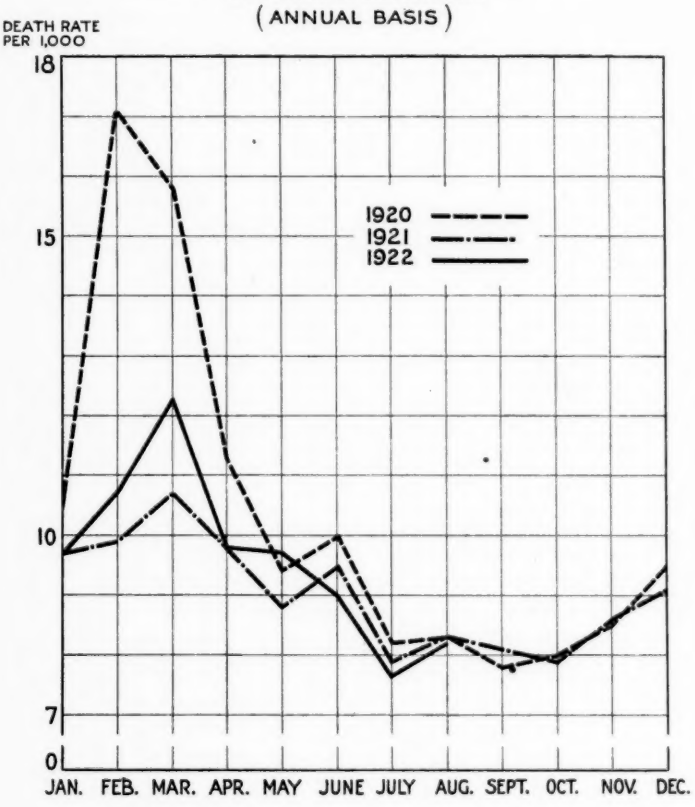
DEATHRATE *per* 1,000 IN SPECIFIED MONTHS OF 1920, 1921, 1922

METROPOLITAN LIFE INSURANCE COMPANY
INDUSTRIAL DEPARTMENT
(ANNUAL BASIS)



	1920	1921	1922
JAN.	10.4	9.7	9.7
FEB.	17.1	9.9	10.7
MAR.	15.8	10.7	12.3
APR.	11.3	9.8	9.8
MAY	9.4	8.8	9.7
JUNE	10.0	9.5	9.0

	1920	1921	1922
JULY	8.2	7.9	7.6
AUG.	8.3	8.3	8.2
SEPT.	7.8	8.1	
OCT.	8.0	7.9	
NOV.	8.5	8.6	
DEC.	9.5	9.1	

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